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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,895	10/09/2003	George Phillips O'Brien	MIC-35 (P50-0116)	9578
34043	7590	01/06/2005	EXAMINER	
DORITY & MANNING, PA & MICHELIN NORTH AMERICA, INC P O BOX 1449 GREENVILLE, SC 29602-1449			JULES, FRANTZ F	
			ART UNIT	PAPER NUMBER
			3617	

DATE MAILED: 01/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/681,895

Applicant(s)

O'BRIEN ET AL

n

Examiner

Frantz F. Jules

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/09/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Aduddell (US 5,436,612).

Claims 1-2 and 11

Aduddell discloses an apparatus for monitoring the condition of a tire comprising at least one sound monitoring device mountable (12) on a vehicle, the sound monitoring device for producing a sound monitoring device output signal representative of the sound produced by at least one tire of the vehicle during rotation of the tire as disclosed in col. 5, lines 29-33; a signal processing device (32) comprising a neural network for receiving and processing the sound monitoring device output signal, the signal processing device producing a processing device output signal representative of a potential damage condition of the tire since the tire as disclosed in col 7, lines 21-38, and an indication device (18) for receiving the processing device output signal and indicating to a user of the vehicle that the tire is experiencing the potential damage condition.

The indication device is an audio indicator as disclosed in col 7, lines 37-38 in accordance with claim 2.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aduddell (US 5,436,612), as applied to claim 1 and in view of Kyrtos (US 6,072,388).

Claims 3-4

Aduddell teaches all the limitations of claims 3-4 except for an apparatus for monitoring the condition of a tire wherein comparison of harmonics or each harmonic frequency in the sound monitoring device output signal to known harmonics representative of the potential damage condition of the tire is performed. The general concept of performing comparison of harmonics or each harmonic frequency in a sound monitoring device output signal to known harmonics representative of the potential damage condition of a system is well known in the art as illustrated by Kyrtos which discloses the teaching of performing comparison of harmonics or each harmonic frequency in a sound monitoring device output signal to known harmonics representative of the potential damage condition of a system. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Aduddell to include the use of performing comparison of harmonics or each harmonic frequency in the sound monitoring device output signal to known harmonics representative of the potential damage condition of the tire in his

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advantageous apparatus for monitoring the condition of a tire as taught by Kyrtos in order to improve the accuracy of the apparatus by eliminating sound recorded from other sources.

6. Claims 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aduddell and Kyrtos (US 6,072,388), as applied to claim 1 and in view of Magiawala et al (US 6,278,361).

Regarding using "comparison of the sound monitoring device output signal to known sound made by tires having various degrees of tread belt separation or to known sounds made by tires having at least a different size, configuration or to known sounds made by tires on different makes and models of vehicle or to known sounds made by tires having even tread wear having various degrees of tread belt separation" as recited in claims 5-10, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Aduddell and Kyrtos to include the use of "comparison of the sound monitoring device output signal to known sound made by tires having various degrees of tread belt separation or to known sounds made by tires having at least a different size, configuration or to known sounds made by tires on different makes and models of vehicle or to known sounds made by tires having even tread wear having various degrees of tread belt separation" in his advantageous system as illustrated by Magiawala et al, as output sound signal comparison is a common and everyday occurrence throughout the tire monitoring design art and the specific use of "comparison of the sound monitoring device output signal to known sound made by tires having various degrees of tread belt separation or to known sounds made by tires having at

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least a different size, configuration or to known sounds made by tires on different makes and models of vehicle or to known sounds made by tires having even tread wear having various degrees of tread belt separation" would have been an obvious matter of design preference depending upon such factors as the weight of the object to be carried by the side walls, the yield strength of the side walls material; the ordinarily skilled artisan choosing the best stress profile corresponding to a particular loading imposed on the side walls which would most optimize the cost and performance of the device for a particular application at hand, based upon the above noted common design criteria.

2. Claims 12, 14 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aduddell (US 5,436,612) in view of Kyrtos (US 6,072,388).

Claims 12, 14, 20-21

Aduddell teaches all the limitations of claims 12, 14, 20-21 except for an apparatus for monitoring the condition of a tire wherein comparison of harmonics or each harmonic frequency in the sound monitoring device output signal to known harmonics on the same make and model of the vehicle representative of the potential damage condition of the tire is performed. The general concept of performing comparison of harmonics or each harmonic frequency in a sound monitoring device output signal to known harmonics representative of the potential damage condition of a system is well known in the art as illustrated by Kyrtos which discloses the teaching of performing comparison of harmonics or each harmonic frequency in a sound monitoring device output signal to known harmonics representative of the potential damage condition of a system. It would have been obvious to one of ordinary skill in the art at the time of the invention to

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modify Aduddell to include the use of performing comparison of harmonics or each harmonic frequency in the sound monitoring device output signal to known harmonics representative of the potential damage condition of the tire in his advantageous apparatus for monitoring the condition of a tire as taught by Kyrtos in order to improve the accuracy of the apparatus by eliminating sound recorded from other sources.

6. Claims 13, 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aduddell and Kyrtos (US 6,072,388), as applied to claim 12 and in view of Magiawala et al (US 6,278,361).

Regarding using "comparison of the sound monitoring device output signal to known sound made by tires having various degrees of tread belt separation or to known sounds made by tires having at least a different size, configuration or to known sounds made by tires on different makes and models of vehicle or to known sounds made by tires having even tread wear having various degrees of tread belt separation" as recited in claims 5-10, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Aduddell and Kyrtos to include the use of "comparison of the sound monitoring device output signal to known sound made by tires having various degrees of tread belt separation or to known sounds made by tires having at least a different size, configuration or to known sounds made by tires on different makes and models of vehicle or to known sounds made by tires having even tread wear having various degrees of tread belt separation" in his advantageous system as illustrated by Magiawala et al, as output sound signal comparison is a common and everyday occurrence throughout the tire monitoring design art and the specific use of "comparison

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of the sound monitoring device output signal to known sound made by tires having various degrees of tread belt separation or to known sounds made by tires having at least a different size, configuration or to known sounds made by tires on different makes and models of vehicle or to known sounds made by tires having even tread wear having various degrees of tread belt separation" would have been an obvious matter of design preference depending upon such factors as the weight of the object to be carried by the side walls, the yield strength of the side walls material; the ordinarily skilled artisan choosing the best stress profile corresponding to a particular loading imposed on the side walls which would most optimize the cost and performance of the device for a particular application at hand, based upon the above noted common design criteria.

### ***Response to Arguments***

7. Applicant's arguments filed 09/02/2004 have been fully considered but they are moot in view of the new grounds of rejection.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frantz F. Jules whose telephone number is (703) 308-8780. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph S. Morano can be reached on (703) 308-0230. The fax phone



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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frantz F. Jules  
Primary Examiner  
Art Unit 3617

FFJ

January 5, 2005

**FRANTZ F. JULES**  
**PRIMARY EXAMINER**

A handwritten signature in black ink, appearing to read 'Frantz F. Jules', written over the printed name and title.